

### REMARKS

In response to the office action of July 6, 2009, applicant provides the following comments. Claims 15, 45, 46, and 53 have been amended. Support for the amendments to claim 15 are found in the specification, such as at page 36, lines 12-14, page 37, lines 29-30, page 38, lines 1-5, page 42, lines 3-5 and 28-30. Claim 53 has been amended to correct a typographical error. Claims 39, 41, and 42 are canceled. Applicant respectfully requests reconsideration in view of these amendments and the following remarks.

#### Section 112 Rejections

Claims 45 and 46 were rejected for being indefinite. Applicant has amended claims 45 and 46 to clarify whether the steps are steps of claim 15 or are further steps in addition to the steps recited in claim 15. Applicant believes these amendments address the Examiner's rejections.

#### Section 102 Rejections

Claims 15, 45-51, 53, 57, 59, and 60 have been rejected as being anticipated by U.S. 6,452,126 ("Xiao"). Applicant respectfully disagrees in light of the amendments to claim 15.

Claim 15 is the only independent claim. Claim 15 as amended is a method including a sequence with, *inter alia*, two steps in the following order. One step is a surface to mass control process, which involves sorting with an air table and which results in two or more fractions that each have a narrow distribution of surface to mass ratios. A following step is a separation process which separates a first plastic type from a second plastic type and is enhanced by the narrow surface to mass distribution, the process involving either electrostatic sorting, froth flotation, or density differential alteration, wherein the two or more fractions resulting from the surface to mass control process are treated by a separation process separately from one another.

Xiao describes a series of electrostatic separators 32-36 (FIG. 1, col. 3, lines 47-50). The electrostatic separators are part of a plastic purifying stage 6 (col. 3, lines 26-40). In the same stage, gravity concentrators can be used to separate plastics by density prior to feeding each

fraction to an electrostatic separator. In the previous stage, a bulk waste treatment stage 4, the plastics are ground by a granulator 18, separated by a screen 20, and classified by an air classifier 22. The screen appears to create two feeds, which are then air classified. At least one of the air classifiers appears to pull fines and fluff off of the mixture. The fines and fluff are not addressed as being treated, while the product from the two air classifiers is combined before being fed to a first gravity concentrator.

Although Xiao describes a series of treatments for a plastic mixture, Xiao fails to recite the elements required for claim 1 as required after amendment of the claim. First, Xiao does not have a surface to mass control process, which involves sorting with an air table. Second, Xiao does not have a surface to mass process which results in two or more fractions that each have a narrow distribution of surface to mass ratio. Third, Xiao's screening and air classification processes result in two streams of product, which are *combined* prior to further treatment and fines or fluff, which are likely discarded and not treated any further. Rather, Xiao performs air classification in order to remove fluff and fines. Only the non-fluff and fine material from the plastic mixture is then sent to a density separator. That is, all of the material that is not removed as fluff and fines from the air classifier is sent to the density separator together. *Density* separators separate the plastics into separate fractions, but by density, not by surface to mass ratios. Xiao does not recognize the benefit of following a surface to mass control step, such as sorting with an air table, with a separation process that separates a first plastic type from a second plastic type and is enhanced by the narrow surface to mass distribution, the process involving either electrostatic sorting, froth floatation, or density differential alteration.

For at least these reasons, applicant submits that claim 15 and the claims that depend therefrom are not anticipated by Xiao.

#### Section 103 Rejections

Claim 52 was rejected as obvious over Xiao in view of U.S. Patent No. 5,314,071 ("Christian").

Christian fails to teach the limitations of claim 15, which are necessarily required by claim 52, that are not taught by Xiao. For this reason, applicant submits that claim 15 is not unpatentable over Xiao in view of Christian.

Accompanying Documents

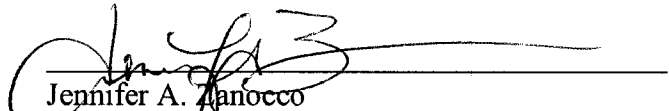
Concurrent with this response, applicant provides an Information Disclosure Statement and a Petition from Requirement for Restriction.

Please apply any required charges or credits to deposit account 06-1050.

Respectfully submitted,

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